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AJC:jcc Attorney's Docket No.: 2907.1000-000
August 27, 2002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Andrew McMichael, Adrian V.S. Hill, Sarah C. Gilbert, Joerg Schneider, Magdalena Plebanski, Tomas Hanke, Geoffrey L. Smith and Tom Blanchard		
Application No.:	09/454,204	Group:	1648
Filed:	December 9, 1999	Examiner:	S. Foley
For:	Methods and Reagents for Vaccination Which Generate a CD8 T Cell Immune Response		

DECLARATION OF DR. MICHAEL MACKETT UNDER 37 C.F.R. 61.132

Assistant Commissioner for Patents
P.O. Box 2327
Arlington, VA 22202

Sir:

I, Michael Macken, 49, of 6 Park Range, Victoria Park, Manchester, M14 5HQ England., declare and state that:

1. I am a Specialist Inspector in Health and Safety; our section is responsible for the regulation of Genetic Modification work in the UK. My first degree was in Biochemistry from Queen Elizabeth College, University of London in 1976. Following a D Phil degree in Molecular Virology from St Mary's Hospital, University of London in 1981 and Post Doctoral work at NIH, USA, I worked for 17 years in the Paterson Institute Manchester on aspects of vaccination and recombinant viruses. My current major interest is in vaccination. My C.V. is attached.

EXHIBIT

2. I have studied the contents of U.S. Application No. 09/454,204 filed December 9, 1999. My study of U.S. Application No. 09/454,204 includes the claims, which I understand are directed to a method for generating a CD8+ T cell immune response in a mammal against a target antigen by administering to the mammal a priming composition and a boosting composition. The priming composition is one or more CD8+ T cell epitopes of the target antigen. The boosting composition is one or more CD8+ T cell epitopes of the target antigen, including at least one CD8+ T cell epitope which is the same as a CD8+ T cell epitope of the priming composition, wherein the source of CD8+ T cell epitopes in the boosting composition is a non-replicating or replication-impaired recombinant poxvirus vector. The claimed invention also includes the proviso that if the source of epitopes in the priming composition is a viral vector, the viral vector in the boosting composition is derived from a different virus. I have also studied the Office Action dated July 3, 2002 and the Li *et al.*, *Proc. Natl. Acad. Sci., USA, 90(11):5214-5218* (June 1993) reference.

3. Li *et al.* immunized mice with a recombinant influenza virus expressing an epitope from the circumsporozoite protein of *P. yoelii*, followed by a ***replication competent***, recombinant vaccinia virus expressing the entire circumsporozoite protein.

4. Prior to the teaching that a non-replicating or replication impaired virus is effective in boosting a CD8+ T cell response against an antigen in U.S. Application No. 09/454,204, it was generally accepted that replication competent viral vectors were required to provide effective and long lasting immunity. This belief was based on the expectation that a replication competent virus would produce more antigen in the host compared to a non-replicating or replication impaired virus.

5. Accordingly, prior to the teachings in U.S. Application No. 09/454,204, it was clearly not expected that a non-replicating or replication impaired virus would be as effective as a replicating virus in boosting a CD8+ T cell response against an antigen in a host.

6. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. Moreover, these

statements were made with the knowledge that willful, false statements and the like made by me are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or any patent issued thereon.

Mike Mackett

Dr. Michael Mackett

13th September 2002.

Date